

Certificate of Transmission

I hereby certify that this correspondence, consisting of _____ pages, is being facsimile transmitted to the United States Patent and Trademark Office, facsimile no. (703) 872-9310, on September 2, 2003.

Signature

AMENDMENTS TO THE SPECIFICATION

At page 2, kindly amend the paragraph comprising lines 5-10 as indicated: _____

B1 -- In many prior art techniques, copper is electrodeposited on a copper seed layer which in turn is deposited onto a diffusion barrier layer. Both diffusion barrier and Cu seed layer are typically deposited using physical vapor deposition (PVD), ionized physical vapor deposition (IPVD), or chemical vapor deposition (CVD) techniques (Hu et al., Mat.Chem. Phys., 52 1998)5). All of these methods, PVD, IPVD, and CVD require special tooling along with a vacuum. --

At page 3, following the description of Figure 2, kindly insert the following material: _____

B2 -- Figure 3 is a cross-sectional view of a line or via opening with a blanket deposit of a barrier material. --

At page 4, kindly amend the paragraph comprising lines 14-17 as follows: _____

B3 -- A copper or copper alloy layer 5 (not shown) can be deposited directly onto the diffusion barrier layer 4. The copper can be deposited directly on the barrier layer 4 without any additional seed layer by electrodeposition from a plating ~~bath~~ bath having a pH of about 12.89 or more. The copper plating is employed to fill the lines and/or vias openings 3. --

At page 5, kindly amend the paragraph comprising lines 1-5 as follows: _____

B4 -- The electroplating is carried out employing a current density of about 5 to about 25 $\mu\text{A}/\text{cm}^2$ and preferably about 10 to about ~~20~~ $\mu\text{A}/\text{cm}^2$ 20 $\mu\text{A}/\text{cm}^2$. The electroplating composition typically contains about 0.02M to about 0.211M (molar) of a copper salt such as CuSO_4 and about

Certificate of Transmission

I hereby certify that this correspondence, consisting of _____ pages, is being facsimile transmitted to the
United States Patent and Trademark Office, facsimile no. (703) 872-9310, on September 2, 2003.

[_____]
Signature

0.02M to about 0.511M of a complexing agent such as Na_2EDTA (~~sodium salt of ethylene diamine tetraacetic acid~~, Na_2EDTA (sodium salt of ethylene diamine tetraacetic acid), --

At page 6, kindly amend line 7 as follows:

-- Na_2EDTA Na_2EDTA 37.2 g/L